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# Projecting Sow Farrowings Using Hogs and Pigs Reports

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# Extension Extra

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## Projecting Sow Farrowings Using Hogs and Pigs Reports

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Farrowing intentions are a primary indicator of U.S. swine supplies. The U.S. Department of Agriculture's National Agricultural Statistics Service (NASS) summarizes producers' intentions in its *Quarterly Hogs and Pigs* reports. In its *Monthly Hogs and Pigs* reports, NASS gives breakdowns of monthly sow farrowings, pig crops, and sows bred.

When farrowing intentions or reported farrowings indicate large potential supplies, producers are able to adjust their production levels or forward price to get the highest returns for their swine. Thus, having a better assessment of future swine supplies will allow producers to adjust farrowings and reduce their business risk.

The objective of this publication is to identify ways to gauge U.S. swine supplies, using the monthly reports to augment information from the quarterly reports. First, trends in farrowing intentions are identified. Second, monthly data are analyzed to show how to check for consistency between farrowing intentions and monthly farrowing and breeding levels. Special attention is paid to revisions in monthly farrowing levels, which are frequently criticized by analysts.

### Farrowing Intentions

Farrowing intentions are reported quarterly for the current and following quarter. Whenever quarterly reports are released, the potential market effects of intentions are routinely analyzed by USDA's Economic Research Service in *Livestock, Dairy, and Poultry Outlook*. The latest quarterly report (from June 28, 2002) gave intentions of 2,930,000 head for the United States for the current quarter (June-August 2002). The intentions are 2,915,000 head for the following quarter (September-November 2002). Generally, pigs are marketed about six months after being farrowed. Thus, the intentions for June-August 2002 provide an estimate of slaughter hog supplies and prices for December 2002-February 2003.

Runkle (1991) found that the intentions for the current quarter are unbiased, meaning that producers are just as likely to overstate as understate their farrowings. Unbiased intentions are good from a producer standpoint, because it means the intentions can be used

with confidence when making supply-related decisions.

Runkle also found that intentions for the following quarter were biased. This means that producers cut back on farrowing levels when their intentions were above the average intentions of the sample and they expanded when intentions were below the average.

Farrowing intentions and actual farrowings from March of 1997 through February of 2002 are positively correlated. Further, the current quarter's intentions and actual farrowings are more strongly correlated than are the following quarter's intentions and actual farrowings. The strongest correlation, however, is between the current and following intentions, consistent with Runkle's finding on the relationship between sets of intentions.

### Monthly Reports

The *Monthly Hogs and Pigs* report is often maligned, because of revisions to the monthly numbers that typically occur upon release of the quarterly reports. However, the monthly totals are revised because the quarterly reports are based on a larger and more representative survey than the monthly reports. Therefore, any revisions to the monthly totals should be seen as improvements in the accuracy of the data, rather than mistakes.

When monthly data are released, producers can assess the intentions and get early indications of any supply changes. For example, monthly farrowings give preliminary information for the first month or two of the current quarter, which is subject to revision upon release of the larger quarterly sample. Such information may be of limited use given the unbiased nature of the current intentions and the limited time frame for producers to adjust farrowings.

The number of sows bred during each month provides additional information to the market. Given gestation lengths, sows bred during a given month will farrow about four months later. However, breeding is not always successful. Using revised monthly data from the quarterly reports from January of 2001 through February of 2002, the number of sows bred was compared to actual farrowings four months later. The average

of the number of sows farrowed divided by the number of sows bred was about 81 percent.

An examination of data provided in the August 2002 report demonstrates how the monthly farrowings and number bred can be used to assess any changes in farrowing intentions on a monthly basis (Table 1). The August 2002 report was the second monthly report released since the June quarterly report.

Projected farrowings of 2,909,000 head for the current quarter, June-August, are obtained by combining the reported monthly farrowings from June and July with the estimated August farrowings from the number bred in April. Projected farrowings of 2,869,000 head for the following quarter, September-November, are obtained by combining the reported number of sows bred from May, June, and July, multiplied by 0.81.

**Table 1. Monthly Sows Farrowed and Bred and Projected Quarterly Farrowings.**

Month	Sows Bred (1,000)	Farrowings (1,000)	Projected Quarterly Farrowings (1,000)
December	1,189	924	
January	1,190	943	
February	1,158	965	
March	1,181	978	
April	1,176	973	
May	1,190	982	
June	1,192	976	
July	1,160	980	
August		953 <sup>a</sup>	2,909 <sup>b</sup>
September			
October			
November			2,869 <sup>c</sup>

Source: Non-projected data are from USDA-NASS.

Notes:

a The monthly farrowing number is found by multiplying the April number bred by 0.81.

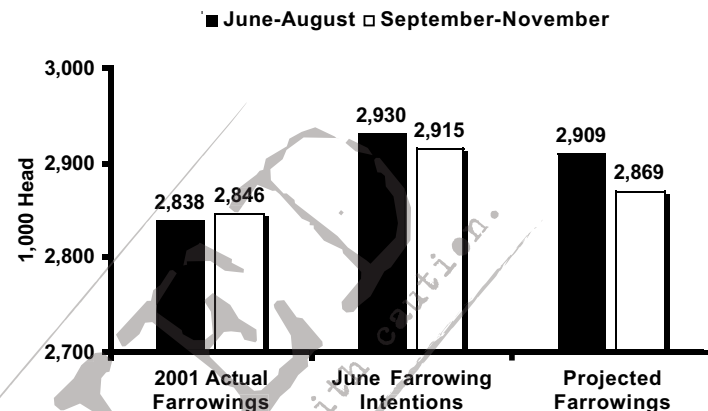
b This number is the sum of the June through August farrowings.

c This number is the sum of the May through July number bred multiplied by 0.81.

Projected quarterly farrowings can be compared to the current and following quarter intentions. The farrowing intentions for the current quarter, from the June 2002 report, are 2,930,000 head (Figure 1). The intentions are higher than the actual farrowings during the same quarter from 2001. While projected farrowings for the quarter are slightly lower than the intentions, the expected swine supply for the fourth quarter of 2002 still exceeds the actual swine supply of 2001. This observation affirms producer concerns about declining prices in the coming months.

The intentions for the following quarter are 2,915,000 head, again above the actual farrowings during 2001 (Figure 1). The low prices during the first half of 2002 may have started to influence production decisions. The projected farrowings for the quarter, based on the breeding activity, are substantially below the intentions, but still above 2001 actual farrowings.

**Figure 1. Potential 2002 Quarterly Sow Farrowings.**



Source: Non-projected data are from USDA-NASS.

## Implications

Besides uncertainty about the number of sows that will farrow, producers face a series of other unknowns. Pig crop variability is an additional factor that influences U.S. swine supplies. Pig crops are reported quarterly and monthly, similar to sow farrowings and would still need to be projected, based on expected pigs per litter. Another major factor involves imports of swine from Canada. Weekly data on shipments of feeder pigs and slaughter hogs from Canada and Canadian slaughter levels are available in *Livestock, Meat & Wool Weekly Summary & Statistics*. Feeder pigs imported by the U.S. will likely reach slaughter weight after five months and could be added to U.S. pig crops with a one-month lag.

This publication aims at improving the ability to gauge U.S. swine supplies. Analysts have long made use of farrowing intentions, which provide an indication of future supplies and signal producers to adjust their supplies over time. The knowledge of farrowing levels is improved by utilizing sows bred data from the *Monthly Hogs and Pigs* report, which can be used to assess changes in supply before the next farrowing intentions become available.

## References

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